UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,357	10/29/2001	Linda A. Castle	02-107010US	3626

22798 7590 10/02/2003

QUINE INTELLECTUAL PROPERTY LAW GROUP, P.C.
P O BOX 458
ALAMEDA, CA 94501

EXAMINER	
KRUSE, DAVID H	

ART UNIT	PAPER NUMBER
1638	18

DATE MAILED: 10/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/004,357	CASTLE ET AL.	
	Examiner	Art Unit	
	David H Kruse	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-256 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) _____ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) 1-256 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. § 121:

I. Claims 1-3, 5-12, 14-40, 61-68, 87-93, 110 and 128-256, drawn to an isolated or recombinant polynucleotide encoding a glyphosate N-acetyl transferase, a nucleic acid construct and vector comprising said polynucleotide, a transgenic plant comprising said isolated or recombinant polynucleotide, a method of making said transgenic plant, a method of selecting a plant or cell comprising a transgenic plant or cell containing said isolated or recombinant polynucleotide, and a method of producing a crop plant comprising said transgenic plant, classified in class 800, subclass 300, for example.

II. Claims 4 and 41, drawn to an isolated or recombinant polynucleotide encoding a polypeptide that catalyzes the acetylation of aminomethylphosphonic acid and a transgenic plant comprising said polynucleotide, classified in class 536, subclass 23.7, for example.

III. Claims 13, 79-83, 86 and 94-109, drawn to an isolated or recombinant polynucleotide encoding a mutated glyphosate N-acetyl transferase and a cell transformed therewith, classified in class 536, subclass 23.2.

IV. Claims 42-44, 46-51, 59, 60 and 127, drawn to an isolated or recombinant polypeptide having glyphosate N-acetyl transferase activity, classified in class 435, subclass 193, for example.

V. Claim 45, drawn to an isolated or recombinant polypeptide that catalyzes the acetylation of aminomethylphosphonic acid, classified in class 435, subclass 193, for example.

VI. Claims 52-58, 84 and 111-126, drawn to a non-native variant of a glyphosate N-acetyl transferase, classified in class 435, subclass 183, for example.

VII. Claims 69-76, drawn to a method of producing a variant of a polynucleotide encoding a glyphosate N-acetyl transferase comprising recursive recombination, classified in class 435, subclass 6, for example.

VIII. Claims 77 and 78, drawn to a library of variant polynucleotides encoding a glyphosate N-acetyl transferase and a population of cells comprising said library, classified in class 536, subclass 23.1, for example.

IX. Claim 85, drawn to a method of mutating a polynucleotide encoding a glyphosate N-acetyl transferase, classified in class 435, subclass 6, for example.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the polynucleotide of Group I encodes a structurally, compositionally and functionally different polypeptide than the polynucleotide of Group II.

3. Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the polynucleotide encoding a mutant glyphosate N-acetyl transferase of Group III is structurally and compositionally distinct from the polynucleotide encoding a glyphosate N-acetyl transferase of Group I.

4. Inventions I and IV-VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the isolated or recombinant polynucleotide encoding a glyphosate N-acetyl transferase of Group I is structurally, compositionally and functionally distinct from the polypeptide of any one of Groups IV-VI.

5. Inventions I and VII are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the isolated or recombinant polynucleotide of Group I can be used in a materially different method than the method of recursive recombination of Group VII, such as in the method of making a transgenic plant encompassed by Group I.

6. Inventions I and VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the isolated or recombinant polynucleotide encoding a glyphosate N-acetyl transferase of Group I is structurally and compositionally distinct from the library of variant polynucleotides encoding a glyphosate N-acetyl transferase of Group VIII.

7. Inventions I and IX are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the isolated or recombinant polynucleotide of Group I can be used in a materially different method than the method of mutating a polynucleotide encoding a glyphosate N-acetyl transferase of Group IX, such as in the method of making a transgenic plant encompassed by Group I.

8. Inventions II and III-IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the isolated or recombinant polynucleotide encoding a polypeptide that catalyzes the acetylation of aminomethylphosphonic acid is structurally, compositionally and functionally distinct from the isolated recombinant polynucleotide of Groups III, the polypeptide of Group IV,

V or VI, the library of variant polynucleotides of Group VIII and cannot be used in the method of either Group VII or IX.

9. Inventions III and IV-VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions the isolated or recombinant polynucleotide encoding a mutated glyphosate N-acetyl transferase of Group III is structurally, compositionally and functionally distinct from the polypeptide of any one of Groups IV-VI.

10. Inventions III and VII and IX are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the isolated or recombinant polynucleotide encoding a mutated glyphosate N-acetyl transferase of Group III can be made using a materially different process than that of either Group VII or Group IX, such as by *in vitro* mutagenesis or by chemical synthesis.

11. Inventions III and VIII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed

does not require the particulars of the subcombination as claimed because the isolated or recombinant polynucleotide encoding a mutated glyphosate N-acetyl transferase of Group III is not specifically required to make the library of variant polynucleotides of Group VIII. The subcombination has separate utility such as a DNA probe.

12. Inventions IV and V are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the isolated or recombinant polypeptide of Group IV catalyzes a different chemical reaction than the isolated or recombinant polypeptide of Group V, and thus is structurally, compositionally and functionally distinct.

13. Inventions IV and VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the isolated or recombinant polypeptide of Group IV is structurally, compositionally and functionally distinct from the isolated or recombinant polypeptide of Group VI.

14. Inventions IV and VII and IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the isolated

or recombinant polypeptide of Group IV cannot be made using the method of either Group VII or Group IX.

15. Inventions IV and VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the polypeptide of Group IV is structurally, functionally and compositionally distinct from the library of variant polynucleotides of Group VIII.

16. Inventions V and VI are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the polypeptide of Group V catalyzes a different chemical reaction than the polypeptide of Group VI, thus it is structurally, functionally and compositionally distinct.

17. Inventions V and VII and IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the polypeptide of Group V cannot be made using the method of either Group VII or Group IX.

18. Inventions V and VIII are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of

operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the polypeptide of Group V is structurally, functionally and compositionally distinct from the library of variant polynucleotides of Group VIII.

19. Inventions VI and VII-IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the isolated or recombinant polypeptide of Group VI cannot be made using the method of either Group VII or Group IX, and is structurally, functionally and compositionally distinct from the library of variant polynucleotides of Group VIII.

20. Inventions VII and VIII are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the library of variant polynucleotides of Group VIII can be made using a materially different process than that of Group VII, such as the method of Group IX.

21. Inventions VIII and IX are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process

(MPEP § 806.05(f)). In the instant case the library of variant polynucleotides of Group VIII can be made using a materially different process than that of Group IX, such as the method of Group VII.

22. Inventions VII and IX are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are unrelated because the method of producing a variant polynucleotide using recursive recombination of Group VII has different method steps, different starting materials and different end products than the method of mutating a polynucleotide of Group IX.

23. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, recognized divergent subject matter, and because the search required for one of the groups is not required for another, restriction for examination purposes as indicated is proper.

24. In addition, **Applicant is required to elect** one nucleic acid sequence and one encoded amino acid sequence (e.g. SEQ ID Nos. 1 and 2) to be examined in conjunction with the elected group of claims. The Patent and Trademark Office recently published its policy for the examination of patent applications that claim large numbers of nucleotide sequences in the Official Gazette, 1192 O.G. 68 (November 19, 1996). Nucleotide sequences encoding different proteins are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to

normally constitute independent and distinct inventions within the meaning of 35 U.S.C. § 121. Absent evidence to the contrary, each such nucleotide is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. § 121 and 37 CFR § 1.141. In establishing the new policy, the Commissioner has partially waived the requirements of 37 CFR § 1.141et seq. and permits a reasonable number of such nucleotide sequences to be claimed in a single application. It has been determined that normally ten sequences constitute a reasonable number for examination purposes. The Official Gazette Notice of November 19, 1996 is one that permits the examiner to waive restriction to no more than one invention. Since 1996, databases and resource allocations at the PTO have changed and the examination of 10 sequences on the merits in the instant application would present a burden on PTO resources. Additionally, it is noted that one nucleotide and one amino acid sequence is within the O.G. notice range of "up to ten" sequences. This election is not to be construed as an election of species.

25. Applicant is advised that the reply to this requirement to be complete within one month (not less than 30 days) must include an election of the invention to be examined even though the requirement be traversed (37 CFR § 1.143).

26. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (703) 306-4539. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Amy Nelson can be reached at (703) 306-3218. The fax telephone number for this Group is (703) 872-9306 Before Final or (703) 872-9307 After Final.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (703) 308-0196.

David H. Kruse, Ph.D.
30 September 2003